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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/416,679	10/12/1999	DAVID J. STACEY	476-1854	6455

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EXAMINER
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LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
2697	9

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/416,679

Applicant(s)

STACEY ET AL.

Examiner

Timothy Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,3,5-12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-12 and 14-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 3, 5-12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westburg et al. (US 5,946,309) in view of Westburg (US 6,195,353).
3. Regarding claims 2, 12, 16, and 17, Westburg et al. discloses a system that can multiplex data from a variety of AAL protocols over a single communication channel in ATM (for interfacing between a narrowband network and a broadband network). See col. 1, lines 1-10. Fig. 2 illustrates the Hybrid AAL, which includes more than one standard AAL, for example, AAL1 204, AAL5, 205, and AALm 206 (ingress traffic to the broadband network independently of the AAL type of that traffic). The Hybrid AAL also includes an AAL multiplexer (functionally partitioned to provide...multiplexing). By employing the Hybrid AAL, bandwidth is more effectively utilized because hybrid data (i.e. communication data from different AALs) can now be transmitted over a single, commonly shared communication channel, rather than separate communication channels. See col. 3, lines 43-57, and Fig. 3. When the data arrives at the receiving station, the demultiplexer directs the communication data stored in the various ATM cells to the appropriate AAL layers (e.g. AAL1, AAL5, AALm) located at the receiving station; Westburg et al. does not mention buffering the incoming data to the receiving station,

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so it can be considered a “through path” (egress path provides on a through path segregation and delineation of incoming data units on to respective external data ports). See col. 9, lines 35-67. Westburg et al. does not expressly disclose the scheduling or prioritization of ingress traffic nor does Westburg et al. expressly disclose a common memory for payload storage for multiplexing ingress traffic. Westburg discloses a similar system that multiplexes short packets of an AAL type and multiplexes them into an ATM stream. Since the short packet multiplexer multiplexes short packets from numerous connections, each of which may be sending short packets simultaneously, the order in which the short packet multiplexer multiplexes the short packets is determined by a programmed priority schedule. Also on the ingress path is an input buffer that provides memory storage for the incoming traffic. See Fig. 5A. It would have been obvious to a person of ordinary skill in the art at the time of the invention to include an incoming memory and priority scheduling in the system disclosed by Westburg et al. One of ordinary skill in the art would have been motivated to do this because in receiving many types of incoming traffic, it would be desirable to multiplex them together in an organized fashion. If one type of traffic is more time-sensitive than another type of traffic, then it might make sense to schedule that type of traffic to have a greater priority in transmission.

4. Regarding claim 3, Westburg discloses that the reason for multiplexing data together is so that overall transmission delay can be reduced, which can also be interpreted as wanting to send the data at a more constant rate.

5. Regarding claims 5 and 14, Westburg et al. discloses that that based on control information sent along with the data packets, the demux will direct the data to the proper layer (connection ID, call state, and packet type).

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6. Regarding claims 6 and 16, it is inherent in the process of scheduling that the system would want to avoid collisions and congestion, or else there would be very little reason to schedule the data.

7. Regarding claim 7, Westburg discloses that the input buffer can be used to stores the short packets normally associated with AAL2.

8. Regarding claims 8 and 9, Fig. 20 of Westburg et al. shows the multiple inputs and outputs into the mux and demux, so there must have some switching involved to move the packets from one unit to the other unit. Regarding claim 9, the two units are connected to together, and over the transmission line, the units are trunked together to perform ATM functions.

9. Regarding claim 10, as mentioned previously, the input buffer provides a buffer for the incoming traffic.

10. Regarding claim 11, the process of scheduling traffic would inherently provide QoS control by giving traffic that needed a higher priority a better chance of being sent sooner.

#### ***Response to Arguments***

11. Applicant's arguments filed July 28, 2003 have been fully considered but they are not persuasive. In response to Applicant's argument regarding Examiner's faulty logic on explaining the "through path" inherent in Westburg et al, the Examiner respectfully disagrees. A skilled person in the art knows that in multiplexing systems involving buffering on the input only, the data can be readily dispersed to the correct destinations on the output without requiring an output buffer. In an input-only buffering system, the whole purpose of the input buffer is so that the data can be organized and can reach the destinations in the order that the system desires.

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If scheduling and prioritization were not concerns in a specific multiplexing system, then input buffers would not be necessary either and each line or station would just contend for access to the multiplexing line. Westburg et al. does not expressly mention that the scheduling and prioritization are concerns in the particular system disclosed, so it makes sense that it does not expressly mention anything about input buffers. Likewise, it is reasonable to look at Westburg et al.'s failure to mention a buffer on the output as an indication that there is not an output buffer either.

12. In response to applicant's argument that one of ordinary skill in the art would necessarily employ both an input buffer and an output buffer if he were to combine the teachings of Westburg with Westburg et al., the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). As mentioned in the rejection above, the input buffer is involved in the process of scheduling and prioritization of packets in Westburg, so if a person of ordinary skill in the art would have wanted those features in Westburg et al., he would have used the input buffer from Westburg in order so that data in Westburg et al. could be scheduled and prioritized. The output buffer is not involved in this process, so one of ordinary skill in the art would not have looked to incorporating the output buffer of Westburg into Westburg et al..

13. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the

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teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it doesn't matter that Westburg involves using AAL2 and Westburg et al. involves multiple AAL protocols. Only the teachings relating to the scheduling and prioritization that involve the input buffer taught by Westburg are being incorporated into the system of Westburg et al.. It is not necessary that both systems are the exact same type of multiplexing system.

### ***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

TLL



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